

WHAT IS CLAIMED IS

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1. A disk drive comprising:

a tracking error signal detecting part which  
detects a tracking error signal; and

10 a gravity center deviated disk determination  
part which determines whether or not a currently loaded  
disk is a gravity center deviated disk, based on the  
tracking error signal detected at different disk rotation  
speeds detected by said tracking error signal detecting  
part.

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2. The disk drive as claimed in claim 1,

20 further comprising a rotation speed control part which  
controls a rotation speed of the disk based on the  
determination result given by said gravity center deviated  
disk determination part.

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3. The disk drive as claimed in claim 2,

wherein:

30 said rotation speed control part makes a control  
of rotation speed of the disk such as to lower the  
rotation speed of the disk when the determination result  
of said gravity center deviated disk determination part

indicates that the disk is a gravity center deviated disk.

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4. The disk drive as claimed in claim 1,  
wherein:

said gravity center deviated disk determination  
part makes a determination that the disk is a gravity  
10 center deviated disk when a change rate of detection level  
of the tracking error signal with respect to the disk  
rotation speed exceeds a predetermined threshold.

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5. The disk drive as claimed in claim 1,  
wherein:

the tracking error signal indicates a  
20 misalignment of a head which performs information  
reading/writing on the disk from a track provided on the  
disk, and has a larger level as the misalignment becomes  
larger.

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6. A disk drive controlling method comprising  
the steps of:

30 a) detecting a tracking error signal; and  
b) determines whether or not a currently loaded  
disk is a gravity center deviated disk based on the  
tracking error signal detected at different disk rotation

speeds detected in said step a) .

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7. The disk drive controlling method as claimed in claim 6, further comprising the step of:

c) controlling a rotation speed of the disk based on the determination result obtained in said step b) .

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8. The disk drive controlling method as claimed in claim 7, wherein:

said step c) comprises a control of rotation speed of the disk such as to lower the rotation speed of the disk when the determination result of said step b) indicates that the disk is a gravity center deviated disk.

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9. The disk drive controlling method as claimed in claim 6, wherein:

said step b) comprises a step of making a determination that the disk is a gravity center deviated disk when a change rate of detection level of the tracking error signal with respect to the disk rotation speed exceeds a predetermined threshold.

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10. The disk drive controlling method as claimed in claim 6, wherein:

the tracking error signal obtained in said step  
a) indicates a misalignment of a head which performs  
5 information reading/writing on the disk from a track  
provided on the disk, and has a larger level as the  
misalignment becomes larger.

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11. A disk drive controlling program making a computer execute the steps of:

a) detecting a tracking error signal; and  
15 b) determining whether or not a currently loaded  
disk is a gravity center deviated disk based on the  
tracking error signal detected at different disk rotation  
speeds obtained in said step a).

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12. The disk drive controlling program as claimed in claim 11, further making the computer execute  
25 the step of:

c) controlling a rotation speed of the disk  
based on the determination result obtained in said step b).

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13. The disk drive controlling program as claimed in claim 12, wherein:

said step c) comprises a control of rotation speed of the disk such as to lower the rotation speed of the disk when the determination result of said step b) indicates that the disk is a gravity center deviated disk.

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14. The disk drive controlling program as  
10 claimed in claim 11, wherein:

said step b) comprises a step of making a determination that the disk is a gravity center deviated disk when a change rate of detection level of the tracking error signal with respect to the disk rotation speed  
15 exceeds a predetermined threshold.

20 15. The disk drive controlling program as claimed in claim 11, wherein:

the tracking error signal obtained in said step  
a) indicates a misalignment of a head which performs information reading/writing on the disk from a track  
25 provided on the disk, and has a larger level as the misalignment becomes larger.